

ABSTRACT

An electric machine drive (50) has a plurality of inverters (50a, 50b) for controlling respective electric machines (57, 62), which may include a three-phase main traction machine (57) and two-phase accessory machines (62) in a hybrid or electric vehicle. The drive (50) has a common control section (53, 54) for controlling the plurality of inverters (50a, 50b) with only one microelectronic processor (54) for controlling the plurality of inverters (50a, 50b), only one gate driver circuit (53) for controlling conduction of semiconductor switches (S_1 - S_{10}) in the plurality of inverters (50a, 50b), and also includes a common dc bus (70), a common dc bus filtering capacitor (C_1) and a common dc bus voltage sensor (67). The electric machines (57, 62) may be synchronous machines, induction machines, or PM machines and may be operated in a motoring mode or a generating mode.